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10/781,888

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Hsin Fen Hsu

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4259

7590

09/30/2005

BRUCE H. TROXELL

SUITE 1404

5205 LEESBURG PIKE

FALLS CHURCH, VA 22011

EXAMINER

INGHAM, JOHN C

ART UNIT

PAPER NUMBER

2814

DATE MAILED: 09/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

H.A

**Office Action Summary****Application No.**

10/781,888

**Applicant(s)**

HSU, HSIN FEN

**Examiner**

John C. Ingham

**Art Unit**

2814

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --****Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 20 February 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-44 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3,4,6,7,9-11,13-16,18-22,24-29,31,35 and 37-43 is/are rejected.
- 7) ☒ Claim(s) 2,5,8,12,17,23,30,32-34,36 and 44 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 July 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Information Disclosure Statement***

1. The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609 A(1) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

### ***Specification***

2. The disclosure is objected to because of the following informalities:
3. The page 11 paragraph beginning with "Referring to Figs. 2A to 2D..." is unclear in its definitions of the terms "multiple concentric recesses" and "one or more stages of recessed faces". The first sentence reads: "Referring to Figs. 2A to 2D, in a preferred embodiment, the bowl 12A, 12B, 12C, 12D of the cathode leg support 11 is designed with multiple concentric recesses 17." Figure 2A appears to only contain a single bowl, and the fifth sentence confirms this: "For example, Fig. 2A shows a one-stage bowl 12A." It is unclear how bowl 12A can be both a one-stage bowl and have multiple concentric recesses unless "one of more stages of recessed faces" is the equivalent of "multiple concentric recesses".
4. The page 12 paragraph beginning with "Referring to the respective figures..." is unclear in its description of the invention and in its references to the drawings. The

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sentence "Some of them are partially attached to the PC board" refers to Figs. 1B and 1F, however it is not apparent how these two figures are partially attached to the PC board, nor what constitutes "partially attached". Figure 1F illustrates a device that passes into the PC board.

The sentence "Some of them are partially attached to the PC board and partially suspended" refers to Figs. 1C and 1G, however no explanation is given as to how they are partially attached and suspended, nor what constitutes "partially suspended". Figure 1G illustrates a device that passes into the PC board.

The sentence "Some of them are partially attached to the PC board and partially suspended and partially passed through the PC board along the column 141" refers to Figs. 1D and 1H, however neither of these figures contains the column 141, nor is an explanation given as to how they are partially attached or partially suspended.

The paragraph must be amended to include a clear description of what is meant by the terms "partially attached" and "partially suspended". References to the appropriate drawings should also be made.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims **1-44** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which

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applicant regards as the invention. Regarding claim 1, the language “at least one depression is formed... for receiving an adhesive therein”, and “whereby during processing procedure, the adhesive is filled into the depression for *preliminarily* adhering the chip” fail to make clear whether the claimed structure includes adhesive in the depression.

7. Claim 18 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The language of claim 18 “wherein the bottom face of the bracket is entirely attached to a conductive metal of a PC board” conflicts with claim 3, from which claim 18 depends. In claim 3, the limitation was stated that a column blind hole was formed in the cathode leg support. On page 6 of the specification, the term “partially suspended/hollow” leads one to believe that “suspended” and “hollow” are interchangeable. A column blind hole (claim 3) means that there exists a “hollow”, and therefore the bracket must be “suspended”. However, claim 18 recites that the bracket is entirely attached. The specification does not lead to a consistent interpretation of claim 18, which is therefore indefinite.

8. Claim 28 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The language of claim 28 “wherein the bottom face of the bracket is partially attached to a conductive metal film of a PC board” conflicts with claim 16 from which it depends. The language of claim 16 states: “wherein the bottom

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face of the bracket is entirely attached to a conductive metal film of a PC board". The bottom face of the bracket cannot be both entirely attached and partially attached.

***Claim Rejections - 35 USC § 102***

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claims **1 and 4** are rejected under 35 U.S.C. 102(b) as being anticipated by Collins et al. With regards to claim **1**, Collins et al. discloses a heat conductivity and brightness enhancing structure (Fig. 1-4) for light-emitting diode, comprising a bracket (see Fig. 4) having a cathode leg support (12), a bowl (14) being formed on upper end of the cathode leg support for resting a light-emitting chip (11) therein, said heat conductivity and brightness enhancing structure being characterized in that at least one depression (16) is formed on a bottommost section of the bowl for receiving an adhesive therein, the depression having an opening directed to the chip, the opening having a diameter or area smaller than a bottom face of the chip (see Fig. 2), whereby during processing procedure the adhesive is filled into the depression for preliminarily adhering the chip.

The claim language, "for receiving an adhesive therein", is considered functional language, and therefore indistinguishable over Collins et al.

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Regarding claim 4, Collins et al. discloses the structure of claim 1, wherein the bowl (14) is formed of at least one stage of recessed face.

***Claim Rejections - 35 USC § 103***

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

13. Claims 3, 6, 11, 13, 14, 16, 19, 21-22, 24-25, 27, 29, and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Collins et al. in view of Yu.

Regarding claim 3, Collins et al. discloses the heat conductivity and brightness enhancing structure for light-emitting diode as claimed in claim 1, but does not disclose the further limitations of depending claim 3: wherein a column blind hole is formed in the cathode leg support from a portion below at least one depression of the bowl by a certain thickness to outer side of the leg support.

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Yu teaches a structure embodiment in figure 14 that contains a hollow column blind hole (hollow section in item 6) beneath the bowl (623) in the cathode leg support (61). It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the structure of Collins et al. with the teaching of Yu, due to the well-known principle of heat dissipation being accelerated by increasing the exposed surface area of a conductor (col 3 ln 34-36). The resultant structure has a blind hole below the depression of the bowl, extending to the outer side of the leg support. The extreme bottom face of the blind hole contacts the PC board, while the inside bottom face of the hole is left suspended.

With regards to claim **6**, Collins et al. in view of Yu discloses the structure as claimed in claim 3, wherein the bowl (Collins et al. item 14) is formed of at least one stage of recessed face (see Fig. 3 of Collins et al.).

With regards to claims **11 and 14**, Collins et al. discloses the structure as claimed in claims 1 and 4, respectively, but does not disclose the further limitation: wherein at least one of the cathode leg support and anode leg support of the bracket is formed with heat-radiating wings (Yu col 4 ln 19-20, exposed parts of plate 52 and pins 5 in figure 13).

Yu teaches a structure embodiment in figure 13 that contains heat-radiating wings (Yu col 4 ln 19-20, exposed parts of plate 52 and pins 5 in figure 13) in the cathode leg support (61). It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the structure of Collins et al. with the teaching of Yu, due to the well-known principles of heat dissipation being accelerated by



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increasing the exposed surface area of a conductor, and conductive metals carrying out heat transfer (col 4 ln 26-29). The resultant structure formed by the combination of references contains exposed plates of metal, which are interpreted as heat-radiating wings.

With regards to claim **13**, Collins et al. in view of Yu discloses the structure as claimed in claim 3, wherein at least one of the cathode leg support and anode leg support of the bracket is formed with heat-radiating wings (Yu col 4 ln 19-20, exposed parts of plate 52 and pins 5 in figure 13).

Regarding claims **16 and 19**, Collins et al. discloses the heat conductivity and brightness enhancing structure for light-emitting diode as claimed in claims 1 and 4, but does not disclose the further limitations of depending claims 16 and 19: wherein the bottom face of the bracket is entirely attached to a conductive metal film of a PC board.

Yu teaches a structure embodiment in figure 11 that contains a solid conductive metal heat sink (6) beneath the bowl (623) in the cathode leg support (61). The bottom face of this bracket (heat sink) can contact the circuit board (10). It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the structure of Collins et al. with the teaching of Yu, due to the well-known principles of heat dissipation being accelerated by increasing the exposed surface area of a conductor, and conductive metals carrying out heat transfer (col 4 ln 26-29). The resultant bracket formed by the combination of references is entirely attached to a conductive metal film of a PC board.

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Regarding claim **21**, Collins et al. in view of Yu discloses the structure as claimed in claim 11, wherein the bottom face of the bracket (Yu, Fig. 11, bottom face of 61), is entirely attached to a conductive metal film of a PC board (Yu col 4 ln 28-30).

Regarding claim **22**, Collins et al. in view of Yu discloses the structure as claimed in claim 1, wherein the bottom face of the bracket (Yu, Fig. 14, bottom face of 61), is partially attached to a conductive metal film of a PC board (Yu col 4 ln 28-30).

Regarding claim **24**, Collins et al. in view of Yu discloses the structure as claimed in claim 3, wherein the bottom face of the bracket (Yu, Fig. 14, bottom face of 61), is partially attached to a conductive metal film of a PC board (Yu col 4 ln 28-30).

With regards to claim **25**, Collins et al. in view of Yu discloses the structure as claimed in claim 4, wherein the bottom face of the bracket (Yu, Fig. 14, bottom face of 61), is partially attached to a conductive metal film of a PC board (Yu col 4 ln 28-30).

Regarding claim **27**, Collins et al. in view of Yu discloses the structure as claimed in claim 11, wherein the bottom face of the bracket (Yu, Fig. 14, bottom face of 61), is partially attached to a conductive metal film of a PC board (Yu col 4 ln 28-30).

With regards to claim **29**, Collins et al. in view of Yu discloses the structure as claimed in 22, wherein the bottom face of the bracket (Yu, Fig. 14, extreme bottom face of 61) is partially attached to a conductive metal film of a PC board (Yu col 4 ln 28-30) and partially suspended (Yu, Fig. 14, bottom face of 61 within blind hole).

With regards to claim **31**, Collins et al. in view of Yu discloses the structure as claimed in 24, wherein the bottom face of the bracket (Yu, Fig. 14, extreme bottom face

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of 61) is partially attached to a conductive metal film of a PC board (Yu col 4 ln 28-30) and partially suspended (Yu, Fig. 14, bottom face of 61 within blind hole).

14. Claims **7 and 10** are rejected under 35 U.S.C. 103(a) as being unpatentable over Collins et al. in view of Suzuki.

With regards to claim 7, Collins et al. discloses the heat conductivity and brightness enhancing structure for light-emitting diode as claimed in claim 1, but does not disclose that the circumference of the depression of the bowl is formed with concentric recesses.

Regarding claim 10, Collins et al. discloses the heat conductivity and brightness enhancing structure for light-emitting diode as claimed in claim 4, but does not disclose that the circumference of the depression of the bowl is formed with concentric recesses.

Suzuki teaches in figure 4 the practice of using layers of recesses to control the directional range of transmitted light. Specifically, there is a first recess 24, a surrounding flat ring 24a, a slanted recess 24b, and a final flat top surface 20a. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the structure of Collins et al. with the recesses surrounding the bowl as taught by Suzuki. The result meets the limitations of claims 7 and 10: wherein the circumference of the depression of the bowl (Collins Fig. 1, items 14 and 16) is formed with concentric recesses (Suzuki Fig. 4, items 24, 24a, and 24b). Motivation to combine the two is recited in Suzuki, column 8, lines 1-7: modifying the widths and depths of the recesses can easily change the range of directions in which the emitted light is shone.

15. Claims **35 and 38** are rejected under 35 U.S.C. 103(a) as being unpatentable over Collins et al. in view of Wang.

Regarding claim **35**, Collins et al. discloses the heat conductivity and brightness enhancing structure for light-emitting diode as claimed in claim 1, but does not disclose the further limitations of depending claim 35: wherein at least two fixing posts are disposed under the bottom face of the bracket for insertion in the PC board.

With regards to claim **38**, Collins et al. discloses the structure for light-emitting diode as claimed in claim 4, but does not disclose the structure wherein at least two fixing posts are disposed under the bottom face of the bracket for insertion in the PC board.

Wang teaches a structure for securely mounting diodes in figures 6-8, with at least a pair of fixation pins (13) integrally extended downwards from the bracket (10) for insertion into the PC board (30). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the structure of Collins et al. with the teaching of Wang. Motivation to do so would include the secure positioning that the fixation posts provide, as well as the enhanced degree of precision of the light emitting signal allowed by the secure positioning (Wang col 1 ln 66 to col 2 ln 3). The combinations of references result in the structures of claims 1 and 4, with Wang providing the teaching for inclusion of fixing posts.

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16. Claims **9, 15, 20, and 26** are rejected under 35 U.S.C. 103(a) as being unpatentable over Collins et al. in view of Yu as applied to claims 3, 11, 16, and 22 above, and further in view of Suzuki.

With regards to claim **9**, Collins et al. in view of Yu discloses the structure for light-emitting diode as claimed in claim 3, but does not disclose the structure wherein the circumference of the depression of the bowl is formed with concentric recesses.

With regards to claim **15**, Collins et al. in view of Yu discloses the structure for light-emitting diode as claimed in claim 11, but does not disclose the structure wherein the circumference of the depression of the bowl is formed with concentric recesses.

Regarding claim **20**, Collins et al. in view of Yu discloses the structure for light-emitting diode as claimed in claim 16, resulting in the device of claim 1 with the entire bottom face of the bracket attached to a conductive metal film of a PC board. Collins et al. in view of Yu does not disclose the structure wherein the circumference of the depression of the bowl is formed with concentric recesses.

Regarding claim **26**, Collins et al. in view of Yu discloses the structure for light-emitting diode as claimed in claim 22, resulting in the device of claim 1 with the bottom face of the bracket partially attached to a conductive metal film of a PC board. Collins et al. in view of Yu does not disclose the structure wherein the circumference of the depression of the bowl is formed with concentric recesses.

Suzuki teaches in figure 4 the practice of using layers of recesses to control the directional range of transmitted light. Specifically, there is a first recess 24, a surrounding flat ring 24a, a slanted recess 24b, and a final flat top surface 20a. It would

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have been obvious to one of ordinary skill in the art at the time of the invention to combine the structure of Collins et al. with the recesses surrounding the bowl as taught by Suzuki.

The result meets the limitations of claim 9, with Collins et al. in view of Yu meeting claim 3, and Suzuki providing the teaching for concentric recesses. Motivation to combine the references is recited in Suzuki, column 8, lines 1-7: modifying the widths and depths of the recesses can easily change the range of directions in which the emitted light is shone.

The results also meet the limitations of claim 15, with Collins et al. in view of Suzuki meeting the structure for light-emitting diode as claimed in claim 7, and Yu providing the teaching for the cathode leg support of the bracket being formed with heat-radiating wings (as taught in claim 11).

The results also meet the limitations of claim 20, with Collins et al. in view of Suzuki meeting the structure for light-emitting diode as claimed in claim 7, and Yu providing the teaching for the bottom face of the bracket being entirely attached to a conductive metal film of a PC board (as taught in claim 16).

Finally, the result meets the limitations of claim 26, with Collins et al. in view of Suzuki meeting the structure for light-emitting diode as claimed in claim 7, and Yu providing the teaching for the bottom face of the bracket being partially attached to a conductive metal film of a PC board (as taught in claim 22).

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17. Claims **37, and 40-43** are rejected under 35 U.S.C. 103(a) as being unpatentable over Collins et al. in view of Yu as applied to claims 3, 16, 22, and 29 above, and further in view of Wang.

With regards to claim **37**, Collins et al. in view of Yu discloses the structure for light-emitting diode as claimed in claim 3, but does not disclose the structure wherein at least two fixing posts are disposed under the bottom face of the bracket for insertion in the PC board.

Regarding claim **40**, Collins et al. in view of Yu discloses the structure for light-emitting diode as claimed in claim 11, but does not disclose the structure wherein at least two fixing posts are disposed under the bottom face of the bracket for insertion in the PC board.

With regards to claim **41**, Collins et al. in view of Yu discloses the structure for light-emitting diode as claimed in claim 16, but does not disclose the structure wherein at least two fixing posts are disposed under the bottom face of the bracket for insertion in the PC board.

Regarding claim **42**, Collins et al. in view of Yu discloses the structure for light-emitting diode as claimed in claim 22, but does not disclose the structure wherein at least two fixing posts are disposed under the bottom face of the bracket for insertion in the PC board.

Regarding claim **43**, Collins et al. in view of Yu discloses the structure for light-emitting diode as claimed in claim 29, but does not disclose the structure wherein at

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least two fixing posts are disposed under the bottom face of the bracket for insertion in the PC board.

Wang teaches a structure for securely mounting diodes in figures 6-8, with at least a pair of fixation pins (13) integrally extended downwards from the bracket (10) for insertion into the PC board (30). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the structures of Collins et al. in view of Yu with the teaching of Wang. Motivation to do so would include the secure positioning that the fixation posts provide, as well as the enhanced degree of precision of the light emitting signal allowed by the secure positioning (Wang col 1 ln 66 to col 2 ln 3). The combinations of references result in the structures of claims 3, 11, 16, 22, and 29, with Wang providing the teaching for inclusion of fixing posts.

18. Claim **39** is rejected under 35 U.S.C. 103(a) as being unpatentable over Collins et al. in view of Suzuki as applied to claim 7 above, and further in view of Wang.

With regards to claim **39**, Collins et al. in view of Yu discloses the structure for light-emitting diode as claimed in claim 7, but does not disclose the structure wherein at least two fixing posts are disposed under the bottom face of the bracket for insertion in the PC board.

Wang teaches a structure for securely mounting diodes in figures 6-8, with at least a pair of fixation pins (13) integrally extended downwards from the bracket (10) for insertion into the PC board (30). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the structures of Collins et al. in view of



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Suzuki with the teaching of Wang. Motivation to do so would include the secure positioning that the fixation posts provide, as well as the enhanced degree of precision of the light emitting signal allowed by the secure positioning (Wang col 1 ln 66 to col 2 ln 3). The combinations of references results in the structure of claim 7, with Wang providing the teaching for inclusion of fixing posts.

***Allowable Subject Matter***

19. Claims 2, 5, 8, 12, 17, 23, 30, 32-34, 36, and 44 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

20. The following is a statement of reasons for the indication of allowable subject matter: claim 2 describes a column hole from the depression of the bowl to the outer side of the leg support. Prior art does not teach this hole which fully breaches the depression, in combination with the remaining structural elements. Claims 5, 8, 12, 17, 23, 30, 33, and 36 depend from claim 2 and therefore also contain allowable subject matter. Claims 32 and 34 describe columns that have column holes and pass through the PC board. Prior art does not teach these limitations in combination with the remaining structural elements. Claim 44 depends from claim 32 and therefore also contains allowable subject matter.

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***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John C. Ingham whose telephone number is (571) 272-0237. The examiner can normally be reached on M-F, 8am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wael Fahmy can be reached on (571) 272-1705. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

jci

  
GEORGE ECKERT  
PRIMARY EXAMINER